

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled).
2. (Original) A fuel assembly to be applied to a nuclear reactor, comprising a thimble screw which is disposed in a bottom nozzle so as to extend from a bottom surface side, has a drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the drain hole from the spot facing hole toward the distal end while the nuclear reactor operates and into the drain hole from a distal end side toward the spot facing hole during a scram mode, is locked to the bottom nozzle at the seat with a rotation preventive pin, and is provided with a coolant collision portion, at a drain hole side of the rotation preventive pin, against which the coolant flowing from the distal end side toward the spot facing hole collides in order to increase the pressure drop of the coolant during the scram mode.
3. (Original) A fuel assembly according to claim 2, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.
4. (Original) A fuel assembly according to claim 2, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.
5. (Original) A fuel assembly according to claim 2, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.
6. (Original) A fuel assembly to be applied to a nuclear reactor, comprising a thimble screw which is disposed in a bottom nozzle to extend from a bottom surface side, has

a first drain hole and second drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the first drain hole and second drain hole from the spot facing hole toward a distal end side while the nuclear reactor operates and into the second drain hole and first drain hole from the distal end side toward the spot facing hole during a scram mode, and is locked to the bottom nozzle at the seat with a rotation preventive pin, the first drain hole having an opening area smaller than an opening area of the spot facing hole and smaller than an opening area of the second drain hole at the distal end.

7. (Original) A fuel assembly according to claim 6, wherein the thimble screw comprises a coolant collision portion, at a first drain hole side of the rotation preventive pin, against which the coolant flowing from the distal end side toward the spot facing hole collides in order to increase pressure drop of the coolant during the scram mode.

8. (Original) A fuel assembly according to claim 7, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.

9. (Original) A fuel assembly according to claim 7, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

10. (Original) A fuel assembly according to claim 7, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.

11. (Cancelled).

12. (Original) A thimble screw which is disposed in a bottom nozzle so as to extend from a bottom surface side, has a drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the drain hole from the spot facing hole toward the distal end while the nuclear

reactor operates and into the drain hole from a distal end side toward the spot facing hole during a scram mode, is locked to the bottom nozzle at the seat with a rotation preventive pin, and is provided with a coolant collision portion, at a drain hole side of the rotation preventive pin, against which the coolant flowing from the distal end side toward the spot facing hole collides in order to increase pressure drop of the coolant during the scram mode.

13. (Original) A thimble screw according to claim 12, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.

14. (Original) A thimble screw according to claim 12, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

15. (Original) A thimble screw according to claim 12, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.

16. (Original) A thimble screw which is disposed in a bottom nozzle of a fuel assembly of a nuclear reactor so as to extend from a bottom surface side, has a first drain hole and second drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the first drain hole and second drain hole from the spot facing hole toward a distal end side while the nuclear reactor operates and into the second drain hole and first drain hole from the distal end side toward the spot facing hole during a scram mode, and is locked to the bottom nozzle at the seat with a rotation preventive pin, the first drain hole having an opening area smaller than an opening area of the spot facing hole and smaller than an opening area of the second drain hole at the distal end.

17. (Original) A thimble screw according to claim 16, having a coolant collision portion, at a first drain hole side of the rotation preventive pin, against which the coolant

flowing from the distal end side toward the spot facing hole collides in order to increase pressure drop of the coolant during the scram mode.

18. (Original) A thimble screw according to claim 17, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.

19. (Original) A thimble screw according to claim 17, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

20. (Original) A thimble screw according to claim 17, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.

21. (New) A fuel assembly to be applied to a nuclear reactor, comprising:  
a thimble screw which is disposed in a bottom nozzle so as to extend from a bottom surface side, has one or more drain holes extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into said one or more drain holes from the spot facing hole toward the distal end while the nuclear reactor operates and into said one or more drain holes from a distal end side toward the spot facing hole during a scram mode, is locked to the bottom nozzle at the seat with a rotation preventive pin.

22. (New) A thimble screw which is disposed in a bottom nozzle so as to extend from a bottom surface side, has one or more drain holes extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into said one or more drain holes from the spot facing hole toward the distal end while the nuclear reactor operates and into said one or more drain holes from a distal end side toward the spot facing hole during a scram mode, is locked to the bottom nozzle at the seat

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with a rotation preventive pin, and is provided with a coolant collision portion, at a drain hole side of the rotation preventive pin.